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EXAMINER

CHAKRABARTI, ARUN K

ART UNIT PAPER NUMBER

1634

DATE MAILED: 04/11/2002

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

08/983,605

Applicant(s)

RODER ET AL.

Examiner

Arun Chakrabarti

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 February 2002.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 14-17 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 14-17 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☒ Other: *Detailed Action*.

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DETAILED ACTION

Specification

1. Claims 14-16 have been amended.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CAR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103© and potential 35 U.S.C. 102(f) or (g) prior art under 35 U.S.C. 103(a).

3. Claims 14 and 17 are rejected over Morgante et al. (U.S. Patent 5,955,276) (September 21, 1991) in view of Mets et al. (U.S. Patent 5,332,408) (July 26, 1994).

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Morgante et al teach a method of genotyping plants at a microsatellite locus (Abstract), the method comprising;

a) amplifying chromosomal DNA with oligonucleotide primer pairs specifically hybridizing to the locus of a region of the chromosomal DNA, wherein the region of the DNA comprises a repeated dinucleotide motif comprising at least one of the following selected from the group consisting of (GA:CT)_n, (GT:CA)_n, (AT:TA)_n, to obtain an amplification product (Column 26, line 60 to column 30, line 13 and Claim 1 and Table II),

b) size fractionating the amplification product to provide a measure of the motif of the chromosomal DNA between the primer pairs (Figures 2-6),

wherein the size of the amplification product is polymorphic for the locus and provides a genotype for the plants (Figures 2-6 and Column 34, line 45 to Column 36, line 24 and Examples 1-3).

Morgante et al teach a method further comprising the step of using the resulting genotype for a further step chosen from genome fingerprinting and whole genome comparisons (Column 6, lines 3-13).

Morgante et al do not teach a method of genotyping plants of the *Triticum aestivum* species.

Mets et al teach the plants of the *Triticum aestivum* species (Column 5, lines 50-58).

It would have been *prima facie* obvious to one having ordinary skill in the art at the time the invention was made to combine and substitute the plants of the *Triticum aestivum* species of

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Mets et al. into the method of genotyping plants of Morgante et al., since Mets et al. state, "Existing crop plants useful as the source of specific nucleic acid probes of the invention include but are not limited to corn, rye, wheat (*Triticum aestivum* and *Triticum turdigum*) (Column 5, lines 50-58)." Further motivation is provided by Morgante et al as Morgante et al state, "Applicant believe that the method of their invention greatly facilitates the simultaneous identification of multiple genomic polymorphisms, both codominant and dominant. Thus, the present method offers great advantage in identifying polymorphic markers linked to genetic traits of interest, and also offers an efficient and convenient generic technique for genomic fingerprinting and whole genom comparisons (Column 6, lines 6-13). By employing scientific reasoning, an ordinary artisan would have combined and substituted the plants of the *Triticum aestivum* species of Mets et al. into the method of genotyping plants of Morgante et al. in order to improve the production of specific nucleic acid probes. An ordinary practitioner would have been motivated to combine and substitute the plants of the *Triticum aestivum* species of Mets et al. into the method of genotyping plants of Morgante et al. in order to achieve the express advantages, as noted by Mets et al., of studying and developing existing crop plants useful as the source of specific nucleic acid probes and also in order to achieve the express advantages, as noted by Morgante et al., of a method that greatly facilitates the simultaneous identification of multiple genomic polymorphisms, both codominant and dominant and offers great advantage in identifying polymorphic markers linked to genetic traits of interest, and also offers an efficient and convenient generic technique for genomic fingerprinting and whole genom comparisons.

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Allowable Subject Matter

4. Claims 15 and 16 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. This objection is based on the absence of any prior art teaching or suggesting the primers having SEQ ID Nos: 1 and 2.

Response to Amendment

5. In view of the amendment, 112 (second paragraph) rejections are hereby withdrawn and claims 15 and 16 have been objected to.

Response to Arguments

6. Applicant's arguments filed on January 30, 2002, have been fully considered but they are not persuasive.

Applicant argued that Morgante reference is not a prior art in view of the German application filed by the applicant on June 28, 1995. Applicant's argument is not persuasive. Applicant is hereby advised and confirmed that the subject matter relied on in the Morgante CIP application (resulting in the patent) was in fact supported in the original parent application (08/346,456), thus providing entitlement to consideration as a 102(e) reference as of the 1994 date. In order to overcome Morgante reference, the applicant must submit 131 declaration by

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providing evidence that applicant's invention was practically in use and available in USA before November 28, 1994 (the date of filing of Morgante's original parent application (08/346,456)).

In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., prior knowledge of SSR locus) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). Applicant also argues that there is no motivation to combine the references. Applicant's argument is not persuasive, especially in the presence of strong motivation provided by Mets et al. since Mets et al. state, "Existing crop plants useful as the source of specific nucleic acid probes of the invention include but are not limited to corn, rye, wheat (*Triticum aestivum* and *Triticum turdigum*) (Column 5, lines 50-58)." Further motivation is provided by Morgante et al as Morgante et al state, "Applicant believe that the method of their invention greatly facilitates the simultaneous identification of multiple genomic polymorphisms, both codominant and dominant. Thus, the present method offers great advantage in identifying polymorphic markers linked to genetic traits of interest, and also offers

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an efficient and convenient generic technique for genomic fingerprinting and whole genom comparisons (Column 6, lines 6-13)".

Applicant argues that Morgante reference teaches away from the claimed invention because "the entire process is time consuming, expensive, and technically demanding and as a result has been somewhat limited in its application" (Column 3, lines 52-54). Applicant argues that because Ghosh has a preferred embodiment of disadvantages of the method, Ghosh is limited to the preferred embodiment. This argument is not persuasive. As MPEP 2123 states "Disclosed examples and preferred embodiments do not constitute a teaching away from a broader disclosure or nonpreferred embodiments. In re Susi, 169 USPQ 423 (CCPA 1971)." MPEP 2123 also states "A reference may be relied upon for all that it would have reasonably suggested to one having ordinary skill the art, including nonpreferred embodiments. Merck & Co. v. Biocraft Laboratories, 10 USPQ2d 1843 (Fed. Cir. 1989)." It is clear that simply because Ghosh has a preferred embodiment, this embodiment does not prevent the reference from suggesting broader embodiments in the disclosure and that this does not constitute a teaching away. Although Ghosh reference uses polyacrylamide in the form of beads of varying pore sizes to purify the nucleotides, the property of running gel electrophoresis is inherently present in this chemically and structurally identical molecule. For example, Ghosh teaches that such polyacrylamide supports or beads can be subjected to gel electrophoresis (Column 2, line 18). Moreover, MPEP 2111 states, "Claims must be given their broadest reasonable interpretation. During patent examination, the pending claims must be "given the broadest

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reasonable interpretation consistent with the specification". Applicant always has the opportunity to amend the claims during prosecution and broad interpretation by the examiner reduces the possibility that the claim, once issued, will be interpreted more broadly than it is justified. *In re Prater*, 415 F.2d 1393, 1404-05, 162 USPQ 541, 550-51 (CCPA 1969)". In this case, Morgante reference teaches an alternative method and states, "SSR polymorphism can be detected by PCR using minute amounts of genomic DNA and, unlike RAPDs, they provide codominant markers and can detect a high degree of genetic polymorphism (Column 3, lines 35-38)".

Therefore, all 103 (a) rejections made in the first office action is hereby properly maintained.

Conclusion

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CAR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CAR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Arun Chakrabarti, Ph.D., whose telephone number is (703) 306-5818. The examiner can normally be reached on 7:00 AM-4:30 PM from Monday to Friday. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gary Jones, can be reached on (703) 308-1152. The fax phone number for this Group is (703) 305-7401. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group analyst Chantae Dessau, whose telephone number is (703) 605-1237.

Arun Chakrabarti,

Patent Examiner,

April 9, 2002


W. Gary Jones
Supervisory Patent Examiner
Technology Center 1600